List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Electromagnetic counterparts of compact object mergers powered by the radioactive decay of r-process nuclei. Monthly Notices of the Royal Astronomical Society, 2010, 406, 2650-2662.	1.6	881
2	Neutrino-Induced Nucleosynthesis ofA>64Nuclei: TheνpProcess. Physical Review Letters, 2006, 96, 142502.	2.9	421
3	Composition of the Innermost Core ollapse Supernova Ejecta. Astrophysical Journal, 2006, 637, 415-426.	1.6	196
4	THE ROLE OF FISSION IN NEUTRON STAR MERGERS AND ITS IMPACT ON THE <i>r</i> -PROCESS PEAKS. Astrophysical Journal, 2015, 808, 30.	1.6	156
5	Strongly interacting confined quantum systems in one dimension. Nature Communications, 2014, 5, 5300.	5.8	151
6	Stable adiabatic quantum batteries. Physical Review E, 2019, 100, 032107.	0.8	81
7	Engineering the dynamics of effective spin-chain models for strongly interacting atomic gases. Physical Review A, 2015, 91, .	1.0	80
8	Fermionization of two-component few-fermion systems in a one-dimensional harmonic trap. New Journal of Physics, 2014, 16, 063003.	1.2	79
9	Quantum spin transistor with a Heisenberg spin chain. Nature Communications, 2016, 7, 13070.	5.8	73
10	Coalescence of Two Impurities in a Trapped One-dimensional Bose Gas. Physical Review Letters, 2018, 121, 080405.	2.9	69
11	The role of fission in the r-process. Progress in Particle and Nuclear Physics, 2007, 59, 199-205.	5.6	65
12	Universal relations for the two-dimensional spin-1/2 Fermi gas with contact interactions. Physical Review A, 2011, 84, .	1.0	63
13	Real-time dynamics of an impurity in an ideal Bose gas in a trap. Physical Review A, 2015, 92, .	1.0	63
14	Comparing and contrasting nuclei and cold atomic gases. Journal of Physics G: Nuclear and Particle Physics, 2013, 40, 053101.	1.4	60
15	Universal properties of Fermi gases in arbitrary dimensions. Physical Review A, 2012, 86, .	1.0	58
16	Efimov physics and the three-body parameter within a two-channel framework. Physical Review A, 2012, 86, .	1.0	51
17	Quantum impurity in a one-dimensional trapped Bose gas. Physical Review A, 2015, 92, .	1.0	51
18	Few-Body Bound States in Dipolar Gases and Their Detection. Physical Review Letters, 2011, 107, 073201.	2.9	48

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19	Bound states and universality in layers of cold polar molecules. Europhysics Letters, 2010, 91, 16001.	0.7	47
20	BCS-BEC crossover in bilayers of cold fermionic polar molecules. Physical Review A, 2012, 85, .	1.0	46
21	Effective approach to impurity dynamics in one-dimensional trapped Bose gases. Physical Review A, 2019, 100, .	1.0	46
22	Alpha decay rate enhancement in metals: An unlikely scenario. Nuclear Physics A, 2007, 781, 81-87.	0.6	44
23	Realization of efficient quantum gates with a superconducting qubit-qutrit circuit. Scientific Reports, 2019, 9, 13389.	1.6	42
24	Model Independence in Two Dimensions and Polarized Cold Dipolar Molecules. Physical Review Letters, 2011, 106, 250401.	2.9	41
25	Single-step implementation of high-fidelity <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"&gt;<mml:mi>n</mml:mi> -bit Toffoli gates. Physical Review A, 2020, 101, .</mml:math 	1.0	40
26	Superconducting Circuit Companionâ $\in$ "an Introduction with Worked Examples. PRX Quantum, 2021, 2, .	3.5	38
27	Analytic harmonic approach to the <i>N</i> -body problem. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 055303.	0.6	37
28	Stability of a Bose-Einstein condensate with higher-order interactions near a Feshbach resonance. Physical Review A, 2009, 80, .	1.0	34
29	Fractional energy states of strongly interacting bosons in one dimension. Europhysics Letters, 2014, 107, 60003.	0.7	33
30	Density waves in layered systems with fermionic polarmolecules. European Physical Journal D, 2011, 65, 133-139.	0.6	32
31	Quantum thermal transistor in superconducting circuits. Physical Review B, 2020, 101, .	1.1	32
32	Bound dimers in bilayers of cold polar molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 125301.	0.6	31
33	Borromean ground state of fermions in two dimensions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 185302.	0.6	31
34	Thomas-Fermi approximation for a condensate with higher-order interactions. Physical Review A, 2009, 80, .	1.0	30
35	Exploring the few- to many-body crossover using cold atoms in one dimension. EPJ Web of Conferences, 2016, 113, 01002.	0.1	30
36	Impenetrable mass-imbalanced particles in one-dimensional harmonic traps. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 085301.	0.6	30

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37	Few-body bound complexes in one-dimensional dipolar gases and nondestructive optical detection. Physical Review A, 2011, 84, .	1.0	29
38	Muon capture on nuclei: Random phase approximation evaluation versus data for6⩽Z⩽94nuclei. Physical Review C, 2006, 74, .	1.1	28
39	Efimov states of heavy impurities in a Bose-Einstein condensate. Europhysics Letters, 2013, 101, 60009.	0.7	28
40	A variational approach to repulsively interacting three-fermion systems in a one-dimensional harmonic trap. European Physical Journal D, 2015, 69, 1.	0.6	28
41	Vortex Structures in a Rotating BEC Dark Matter Component. Research Letters in Physics, 2011, 2011, 1-12.	0.2	27
42	Density wave instabilities of tilted fermionic dipoles in a multilayer geometry. New Journal of Physics, 2012, 14, 105006.	1.2	26
43	Mass-imbalanced three-body systems in two dimensions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 055301.	0.6	26
44	Multicomponent Strongly Interacting Few-Fermion Systems in One Dimension. Few-Body Systems, 2014, 55, 839-842.	0.7	25
45	Weakly bound states of two- and three-boson systems in the crossover from two to three dimensions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 025302.	0.6	25
46	CONAN—The cruncher of local exchange coefficients for strongly interacting confined systems in one dimension. Computer Physics Communications, 2016, 209, 171-182.	3.0	25
47	Scaling and universality in two dimensions: three-body bound states with short-ranged interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2011, 44, 205302.	0.6	24
48	Bound states of dipolar bosons in one-dimensional systems. New Journal of Physics, 2013, 15, 043046.	1.2	24
49	Strongly interacting mesoscopic systems of anyons in one dimension. Physical Review A, 2015, 92, .	1.0	24
50	Four fermions in a one-dimensional harmonic trap: Accuracy of a variational-ansatz approach. Physical Review A, 2017, 95, .	1.0	23
51	Few-body bound-state stability of dipolar molecules in two dimensions. Physical Review A, 2012, 85, .	1.0	22
52	Efimov three-body states on top of a Fermi sea. New Journal of Physics, 2014, 16, 023026.	1.2	22
53	Three-body recombination of two-component cold atomic gases into deep dimers in an optical model. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 085301.	0.6	22
54	Quantum simulation of Abelian lattice gauge theories via state-dependent hopping. Physical Review A, 2017, 96, .	1.0	22

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55	Universal two-body spectra of ultracold harmonically trapped atoms in two and three dimensions. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 205302.	0.7	21
56	Analytic solutions of topologically disjoint systems. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 085301.	0.7	21
57	Realizing time crystals in discrete quantum few-body systems. Physical Review B, 2019, 99, .	1.1	21
58	Shell-model Monte Carlo simulations of the BCS-BEC crossover in few-fermion systems. Physical Review A, 2009, 80, .	1.0	20
59	<mml:math <br="" xmlns:mml="http://www.w3.org/1998/Math/MathML">display="inline"&gt;<mml:mi>Ï€</mml:mi></mml:math> Phases in Balanced Fermionic Superfluids on Spin-Dependent Optical Lattices. Physical Review Letters, 2010, 105, 095301.	2.9	20
60	Layers of cold dipolar molecules in the harmonic approximation. European Physical Journal D, 2012, 66, 1.	0.6	20
61	Tunable self-assembled spin chains of strongly interacting cold atoms for demonstration of reliable quantum state transfer. New Journal of Physics, 2016, 18, 045011.	1.2	20
62	Squeezing the Efimov effect. Journal of Physics B: Atomic, Molecular and Optical Physics, 2018, 51, 065004.	0.6	20
63	Nucleosynthesis in neutrino-driven supernovae. New Astronomy Reviews, 2006, 50, 496-499.	5.2	19
64	Virial expansion coefficients in the harmonic approximation. Physical Review E, 2012, 86, 021115.	0.8	19
65	Single-particle momentum distributions of Efimov states in mixed-species systems. Physical Review A, 2013, 87, .	1.0	19
66	Supercircle description of universal three-body states in two dimensions. Physical Review A, 2012, 85, .	1.0	18
67	Quantum statistics and thermodynamics in the harmonic approximation. Physical Review E, 2012, 85, 021117.	0.8	18
68	Few-Body Physics in a Many-Body World. Few-Body Systems, 2014, 55, 599-604.	0.7	18
69	Analytical and numerical studies of Bose–Fermi mixtures in a one-dimensional harmonic trap. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 144002.	0.6	18
70	An interpolatory ansatz captures the physics of one-dimensional confined Fermi systems. Scientific Reports, 2016, 6, 28362.	1.6	17
71	Energy-level repulsion by spin-orbit coupling in two-dimensional Rydberg excitons. Physical Review B, 2018, 97, .	1.1	17
72	Cross sections and fragment distributions from neutrino-induced fission on r-process nuclei. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 616, 48-58.	1.5	16

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73	Production of intermediate-mass and heavy nuclei. Progress in Particle and Nuclear Physics, 2007, 59, 74-93.	5.6	16
74	Nuclearα-particle condensates: Definitions, occurrence conditions, and consequences. Physical Review C, 2008, 78, .	1.1	16
75	Effective Field Theory of Interactions on the Lattice. Few-Body Systems, 2015, 56, 845-851.	0.7	16
76	Simulation of time-dependent Heisenberg models in one dimension. Physical Review B, 2016, 93, .	1.1	16
77	Comparing numerical and analytical approaches to strongly interacting two-component mixtures in one dimensional traps. European Physical Journal D, 2017, 71, 1.	0.6	16
78	Finite-range effects in energies and recombination rates of three identical bosons. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 075301.	0.6	15
79	Higher-order Brunnian structures and possible physical realizations. Physics of Atomic Nuclei, 2014, 77, 336-343.	0.1	15
80	Magnetic structure of an imbalanced Fermi gas in an optical lattice. Physical Review A, 2010, 81, .	1.0	14
81	Spectral gaps of spin–orbit coupled particles in deformed traps. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 134012.	0.6	14
82	Entanglement of an impurity in a few-body one-dimensional ideal Bose system. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 075303.	0.6	14
83	Emergence of Clusters: Halos, Efimov States, and Experimental Signals. Physical Review Letters, 2018, 120, 052502.	2.9	14
84	Reducing the Amount of Singleâ€Qubit Rotations in VQE andÂRelated Algorithms. Advanced Quantum Technologies, 2020, 3, 2000063.	1.8	14
85	Dimers, Effective Interactions, and Pauli Blocking Effects in a Bilayer of Cold Fermionic Polar Molecules. Few-Body Systems, 2012, 53, 369-385.	0.7	13
86	Occurrence conditions for two-dimensional Borromean systems. European Physical Journal D, 2013, 67, 1.	0.6	13
87	Three-body recombination at finite energy within an optical model. Physical Review A, 2013, 88, .	1.0	13
88	Statistical properties of spectra in harmonically trapped spin–orbit coupled systems. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 195303.	0.6	13
89	Native three-body interaction in superconducting circuits. Physical Review Research, 2019, 1, .	1.3	13
90	Dimensional effects on the momentum distribution of bosonic trimer states. Physical Review A, 2013, 87, .	1.0	12

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91	Comparing models for the ground state energy of a trapped one-dimensional Fermi gas with a single impurity. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 125305.	0.6	12
92	Correlation properties of a three-body bosonic mixture in a harmonic trap. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 135301.	0.6	12
93	Dynamics of spin and density fluctuations in strongly interacting few-body systems. Scientific Reports, 2019, 9, 15994.	1.6	12
94	An artificial spiking quantum neuron. Npj Quantum Information, 2021, 7, .	2.8	12
95	Formation of classical crystals of dipolar particles in a helical geometry. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 165103.	0.6	11
96	Quantum interference device for controlled two-qubit operations. Npj Quantum Information, 2020, 6,	2.8	11
97	Simple implementation of high fidelity controlled- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"&gt;<mml:mi>i</mml:mi> swap gates and quantum circuit exponentiation of non-Hermitian gates. Physical Review Research, 2020, 2, .</mml:math 	1.3	11
98	Entanglement-enhanced quantum rectification. Physical Review A, 2022, 105, .	1.0	11
99	Controllable two-qubit swapping gate using superconducting circuits. Physical Review B, 2019, 99, .	1.1	10
100	Coherent router for quantum networks with superconducting qubits. Physical Review Research, 2020, 2, .	1.3	10
101	The Innermost Ejecta of Core Collapse Supernovae. Nuclear Physics A, 2005, 758, 27-30.	0.6	9
102	Three-body bound states of two bosonic impurities immersed in a Fermi sea in 2D. New Journal of Physics, 2016, 18, 043023.	1.2	9
103	Giant Magnetoresistance in Boundary-Driven Spin Chains. Physical Review Letters, 2021, 126, 077203.	2.9	9
104	Lattice gauge theory and dynamical quantum phase transitions using noisy intermediate-scale quantum devices. Physical Review B, 2021, 103, .	1.1	9
105	Capture reactions into Borromean two-proton systems at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"&gt;<mml:mrow><mml:mi>r</mml:mi><mml:mi>ppoints. Physical Review C, 2016, 93, .</mml:mi></mml:mrow></mml:math 	> < /mb.ml:mi	rows
106	Computation of local exchange coefficients in strongly interacting one-dimensional few-body systems: local density approximation and exact results. European Physical Journal D, 2016, 70, 1.	0.6	8
107	Combined mean-field and three-body model tested on the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"&gt;<mml:mmultiscripts><mml:mi mathvariant="normal"&gt;O<mml:mprescripts></mml:mprescripts><mml:none /&gt;<mml:mn>26</mml:mn></mml:none </mml:mi </mml:mmultiscripts> nucleus. Physical Review C. 2017. 95</mml:math 	1.1	8
108	Dynamical quantum phase transitions in a noisy lattice gauge theory. Physical Review B, 2022, 105, .	1.1	8

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109	Weakly Bound States of Polar Molecules in Bilayers. Few-Body Systems, 2011, 50, 395-397.	0.7	7
110	Many-particle systems in one dimension in the harmonic approximation. Physica Scripta, 2012, T151, 014061.	1.2	7
111	Thermodynamics of Dipolar Chain Systems. Few-Body Systems, 2013, 54, 605-618.	0.7	7
112	Quantum few-body bound states of dipolar particles in a helical geometry. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 024002.	0.6	7
113	Quantum collision theory in flat bands. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 064004.	0.6	7
114	Spin Localization of a Fermi Polaron in a Quasirandom Optical Lattice. Few-Body Systems, 2017, 58, 1.	0.7	7
115	Ion-induced interactions in a Tomonaga-Luttinger liquid. Physical Review B, 2019, 100, .	1.1	7
116	Field-induced long-lived supermolecules. Physical Review A, 2012, 85, .	1.0	6
117	Bound Chains of Tilted Dipoles in Layered Systems. Few-Body Systems, 2013, 54, 707-715.	0.7	6
118	Dipoles on a two-leg ladder. Physical Review B, 2013, 88, .	1.1	6
119	Borromean structures in medium-heavy nuclei. Physical Review C, 2014, 90, .	1.1	6
120	Generation of spin currents by a temperature gradient in a two-terminal device. Communications Physics, 2021, 4, .	2.0	6
121	Quantum Wheatstone Bridge. Physical Review Letters, 2022, 128, .	2.9	6
122	Stability of a fully polarized ultracold Fermi gas near zero-crossing of a p-wave Feshbach resonance. European Physical Journal D, 2010, 57, 235-240.	0.6	5
123	Contact parameters in two dimensions for general three-body systems. New Journal of Physics, 2014, 16, 013048.	1.2	5
124	Spectral flow of trimer states of two heavy impurities and one light condensed boson. European Physical Journal D, 2014, 68, 1.	0.6	5
125	Hyperspherical treatment of strongly-interacting few-fermion systems in one dimension. European Physical Journal: Special Topics, 2015, 224, 585-590.	1.2	5
126	Quantum single-particle properties in a one-dimensional curved space. Journal of Modern Optics, 2016, 63, 1814-1828.	0.6	5

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127	Mobile spin impurity in an optical lattice. New Journal of Physics, 2017, 19, 075001.	1.2	5
128	Dynamical realization of magnetic states in a strongly interacting Bose mixture. Physical Review A, 2017, 95, .	1.0	5
129	Emergence of junction dynamics in a strongly interacting Bose mixture. New Journal of Physics, 2018, 20, 063014.	1.2	5
130	Quantum Maxwell's demon assisted by non-Markovian effects. Physical Review E, 2022, 105, 044141.	0.8	5
131	Comment on "Coexistence of BCS- and BEC-Like Pair Structures in Halo Nuclei― Physical Review Letters, 2008, 101, 179201; discussion 179202.	2.9	4
132	Classical crystal formation of dipoles in two dimensions. Physica Scripta, 2015, 90, 125002.	1.2	4
133	Efimov States in Li–Cs Mixtures within a Minimal Model. Few-Body Systems, 2015, 56, 125-131.	0.7	4
134	Hybrid model of separable, zero-range, few-body interactions in one-dimensional harmonic traps. Physical Review A, 2017, 96, .	1.0	4
135	Most scientists prefer small and mid-sized research grants. Nature Human Behaviour, 2019, 3, 765-767.	6.2	4
136	Correlated Gaussian approach to anisotropic resonantly interacting few-body systems. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 145102.	0.6	4
137	Common concepts in nuclear physics and ultracold atomic gasses. Journal of Physics: Conference Series, 2008, 111, 012016.	0.3	3
138	Mapping the two-component atomic Fermi gas to the nuclear shell-model. European Physical Journal D, 2014, 68, 1.	0.6	3
139	Repulsively interacting fermions in a two-dimensional deformed trap with spin-orbit coupling. European Physical Journal D, 2015, 69, 1.	0.6	3
140	Analytic Expression for Three-Body Recombination Rates into Deep Dimers. Few-Body Systems, 2015, 56, 889-896.	0.7	3
141	Effects of Interaction Imbalance in a Strongly Repulsive One-Dimensional Bose Gas. Few-Body Systems, 2018, 59, 1.	0.7	3
142	State transfer in an inhomogeneous spin chain. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 155301.	0.6	3
143	Application of the Diamond Gate in Quantum Fourier Transformations and Quantum Machine Learning. Physical Review Applied, 2022, 17, .	1.5	3
144	Muon capture on nickel and tin isotopes. European Physical Journal A, 2003, 17, 625-631.	1.0	2

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145	Efimov Trimers Near the Zero-crossing of a Feshbach Resonance. Few-Body Systems, 2013, 54, 597-603.	0.7	2
146	Assessing the accuracy of Hartree-Fock-Bogoliubov calculations by use of mass relations. European Physical Journal A, 2014, 50, 1.	1.0	2
147	Spin-Orbit Coupling in Deformed Harmonic Traps. Few-Body Systems, 2014, 55, 1045-1047.	0.7	2
148	Unitary fermions and Lüscher's formula on a crystal. Science China: Physics, Mechanics and Astronomy, 2016, 59, 1.	2.0	2
149	Combining Few-Body Cluster Structures with Many-Body Mean-Field Methods. Few-Body Systems, 2017, 58, 1.	0.7	2
150	Universality of Three-Body Systems in 2D: Parametrization of the Bound States Energies. Few-Body Systems, 2014, 55, 1025-1027.	0.7	1
151	Mass-Imbalanced Three-Body Systems in 2D: Bound States and the Analytical Approach to the Adiabatic Potential. Few-Body Systems, 2014, 55, 847-850.	0.7	1
152	Luttinger liquids from a microscopic perspective. Physica Scripta, 2017, 92, 095801.	1.2	1
153	Structure and Decay at Rapid Proton Capture Waiting Points. Few-Body Systems, 2017, 58, 1.	0.7	1
154	Clusters in Separated Tubes of Tilted Dipoles. Mathematics, 2020, 8, 484.	1.1	1
155	ASTROPHYSICAL CHALLENGES TO RIA: EXPLOSIVE NUCLEOSYNTHESIS IN SUPERNOVAE. , 2007, , .		1
156	Composition of the Innermost Core Collapse Supernova Ejecta and the $\hat{l}^{1\!\!/}_{2}p$ -Process. AIP Conference Proceedings, 2006, , .	0.3	0
157	Weak Interaction Rates of Nuclei Near the R-Process Paths. AIP Conference Proceedings, 2007, , .	0.3	0
158	Galactic abundances as a relic neutrino detection scheme. Journal of Cosmology and Astroparticle Physics, 2011, 2011, 019-019.	1.9	0
159	Effective Potential for Ultracold Atoms at the Zero Crossing of a Feshbach Resonance. Journal of Atomic, Molecular, and Optical Physics, 2012, 2012, 1-9.	0.5	0
160	The role of fission on neutron star mergers and its impact on the r-process peaks. AIP Conference Proceedings, 2016, , .	0.3	0
161	Capture reactions into borromean two-proton systems at rp-waiting points. Journal of Physics: Conference Series, 2017, 863, 012074.	0.3	0